

Work Order ID 54925

January 5, 2010 9:49:16 AM



Page 1

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 05/01/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 18/01/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan: *Bl*

Date: *10-1-05*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100

0.00



DOCUMENT CONTROL

DC

0.00

Memo

Document Control

Photocopy bluefile & type labels per PPP D206-642-541

CHG003

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod.Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Skidtubes

0.00

Memo

****VERIFY AND INSPECT THE MATERIAL PRIOR TO USE****

1- Bend FWD end of tube using bend prog D3274 FWD dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch: M 112507 / M112860 BE 10/01/19

4- grind fwd cap weld on top surface only BE 10/01/19

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D.
Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

Handwritten signature and date 10-1-18

Handwritten signature and date 10-1-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Approvals: Process Plan: Date:

Tooling: Date:

Stop



QC: Date:

SPC (Y/N): Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

Chemical Conversion Coat per QS1005 4.1

0.00

DD

10-1-20



HandFinish

Memo

0.00

Hand Finishing

130

QC3- Inspect Part Finish

0.00

⇒ 8/10/1/20



QC

Memo

0.00

Quality Control

140

QC5- Inspect part completeness to step on W/O

0.00

⇒ 5/10/1/20



QC

Memo

0.00

Quality Control

(A)

φ

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Required Date: 18/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150



Skidtubes

Skidtubes

0.00

0.00

Memo

1-Open Ø0.313" and 0.375" crossbolt spacer holes using DT8743 as per Dwg D3274

2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 & QSI 015.

A/R: Sikaflex-291 M112395Sikaflex expire date: 10-8-30Start: 10-1-20 Time: 1pmFinish: 10-1-21 Time: 2:15pm

(Adhere for 12 hours)

DP
10-1-20

160



QC

QC5- Inspect part completeness to step on W/O

0.00

⇒ S. 10-1-21

0.00

Memo

(X)

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Required Date: 18/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170



Skidtubes

Skidtubes

0.00

0.00

Memo

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-IT2
OPEN HOLES TO .297" . Deburr3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT89B5 FWD
END OF TUBE
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

Sub
10-01-21

H 10/1/25

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

Memo

h = 3.00"
L = 5.0"

S, 10/1/25

① f

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Req'd Date: 18/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod
A/R Aluminum Rod M112507 BE 10/01/26

3-Grind cross bolt welds flush as per Dwg D3274.

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

u 10/11/26

200

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

=> 8.10.10.26

(40)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210

QC10- Inspect visual per QSI004- ground welds

0.00



→ B, S. L. L. B. C.

QC

Memo

0.00

Quality Control



220

Pressure Wash per QSI005 4.3

0.00



BR 10-02-9

HandFinish

Memo

0.00

Hand Finishing

RE-ALADINED P.H.F. 09-043

BR 10-02-10

230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



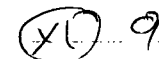
11113170

0.00

→ Jll 10/02/10

Powdercoat

Memo



Powder Coating

START TIME: 9:30AM
OVEN TEMPERATURE: 370°F
FINISH TIME: 10:00AM

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

240

QC3- Inspect Part Finish

0.00

BR 10-02-26

Q.



QC

Memo

0.00

Quality Control

250

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.
A/R N/A LPS-3

2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a
A/R Sikaflex-291 *112345*
Sikaflex expire date: *10/08*

[BR 10-02-26 Q.]

260

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Inspect Nut Plate & Inserts

S 10/02/26

Q.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

270

0.00



HAND FINISHING RESOURCE #1

HandFinish

Memo

0.00

Hand Finishing

1-Install wearpads & gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/R ☐ Sikaflex-291 ☒ 112345

Sikaflex expire date: 10/08

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: _____

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R ☐ Sikaflex-291 ☒ 112345

Sikaflex expire date: 10/08

BR 10-02-20

BR 10-02-20.

280

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

C 10/02/24

FO

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

290

Identify as per dwg & Stock Location: _____

0.00

PP

Packaging

Memo

0.00

Packaging

54922

10-3-4

SD

300

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/03/05 *MF*

10-3-4

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Work Order ID: 54925

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Finite Qty ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	------------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D2600-1-190

Manufactured

No

110

Each

56.0000

1.0000



Extrusion Round 3" 206

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

56

47575

56

D3285-1

Manufactured

No

110

Each

167.0000

1.0000



Cap

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

167

47635

18

52511

74

52647

75

D3282-041

Manufactured

No

150

Each

7.0000

1.0000



Float Web (206L/407)

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

7

48389

1

52696

6

DP 10-1-18

1 BE 10/6/19

DP 10-1-20

W/O:		WORK ORDER CHANGES					
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Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Res Seq	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2649		Manufactured	No			190	Each	202.0000	12.0000			

Cross Bolt Spacer

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
LG	83	
51529	83	
Main Warehouse		
ST	119	
36013	5	
47112	110	
48271	4	

12 BE 10/01/25

D3275-1

Manufactured No

190

Each

58.0000

12.0000



Crossbolt Spacer

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	58	
47464	1	
48117	3	
52510	9	
53453	45	

12 BE 02/01/25

January 5, 2010 9:49:22 AM

Shop Packet Print

Page 2

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Parent Item Name: Replacement Skidtube



Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:



Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
CR3212-4-03		Purchased	No			250	Each	274.0000	2.0000			
												
Cherry Rivet												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST 110189	274	
111359	84	
112314	190	

2. BR 10-02-26

D3415-041		Manufactured	No			250	Each	77.0000	1.0000			
												
Nut Plate												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	77	
33842 ✓	77	

1 BR 10-02-26

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Shop Packet Print

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Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
CCR264SS3-3		Purchased	No			250	Each	349.0000	2.0000			

Cherry Rivet

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	349	
111548 ✓	20	
111827	1	
112314	36	
113064	92	
113539	200	

2 ✓ 10-02-26

ALS4-1032-130		Purchased	No			250	Each	2,717.000	78.0000			

Insert

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	2717	
110511 ✓	2717	

78, ✓ 10-02-26

D3536-15		Manufactured	No			270	Each	13.0000	1.0000			

Gasket

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	13	
51600 ✓	13	

1 ✓ 10-02-26

January 5, 2010 9:49:22 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 9:49:22 AM

Work Order ID: 54925

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube



Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:



Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3536-23		Manufactured	No			270	Each	16.0000	1.0000			
												
Gasket												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
FP	3	
51609 ✓	3	
Main Warehouse		
ST	13	
30754	1	
53468	12	

1 BR 10-02 26

D3536-35		Manufactured	No			270	Each	20.0000	1.0000			
												
Gasket												

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	20	
51628 ✓	20	

1 BR 10-02 26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 9:49:22 AM

Work Order ID: 54925

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3536-39		Manufactured	No			270	Each	14.0000	1.0000			

Gasket

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP	12	
51637 ✓	12	
Main Warehouse		
ST	2	
44648	1	
48161	1	

1 pk 10-02-26

D3535-15

Manufactured No

270

Each

15.0000

1.0000

Wearshoe

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	15	
30750	4	
42233	1	
53462 ✓	10	

1 pk 10-02-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 9:49:22 AM

Work Order ID: 54925

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube



Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3535-35		Manufactured	No			270	Each	18.0000	1.0000			
												

Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

18

51608 ✓

18

D3535-39

Manufactured

No

270

Each

12.0000

1.0000



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

12

51619 ✓

12

D3535-23

Manufactured

No

270

Each

10.0000

1.0000



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

10

53467 ✓

10

January 5, 2010 9:49:22 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 9:49:22 AM

Work Order ID: 54925



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	-----------------	----------------	--------------------------	---------------	----------------	--------

D3537-3		Manufactured	No			270	Each	40.0000	1.0000			
---------	--	--------------	----	--	--	-----	------	---------	--------	--	--	--



Wearpad

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 40

33881 6

35697 ✓ 34

D3537-1		Manufactured	No			270	Each	141.0000	9.0000			
---------	--	--------------	----	--	--	-----	------	----------	--------	--	--	--



Wearpad

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP 2

48288 2

Main Warehouse

FP17 139

51678 34

51679 ✓ 105

1 bk 10-02-26.

9 bk 10-02-26.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 9:49:23 AM

Page 9

Work Order ID: 54925

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mo Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960C10L		Purchased	No			270	Each	416.0000	80.0000			

washer

Warehouse

Loc Qty

Loc Code

Location

NAS1149C0332R OFFSHORE
FG 113787

100

103585

100

Main Warehouse

ST

316

112116

156

112612

160

80 Bl 10-02-26

AN960C416

Purchased

No

270

Each

542.0000

1.0000

washer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

542

100993 ✓

542

10/10/10-02-26

January 5, 2010 9:49:23 AM

Shop Packet Print

Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 9:49:23 AM

Work Order ID: 54925



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg Part	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3672-1		Manufactured	No			270	Each	1,744.000	2.0000			

Phenolic Washer

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	1244	
39275	19	
42329	5	
47628 ✓	220	
52505	1000	
Main Warehouse		
ST117	500	
51674	500	

2 BR 10-02. 26,

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 9:49:23 AM

Work Order ID: 54925

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube


Comments:

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purchase	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN3C4A  BOLT		Purchased	No			270	Each	1,195.000	80.0000			

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
ST 113644	1195	
112314	13	
112720	12	
112724	3	
112829	1	
112991	2	
113121	64	
113226	586	
113359	14	
113422	500	

80 BR 10-02-26

AN4C5A  BOLT	Purchased	No				270	Each	571.0000	1.0000			
---	-----------	----	--	--	--	-----	------	----------	--------	--	--	--

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
ST	571	
104936	5	
110552 ✓	64	
112243	500	
18918	2	

1 BR 10-02-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 5, 2010 9:49:23 AM

Work Order ID: 54925

Parent Item: 5206-642-541

Parent Item Name: Replacement Skidtube



Comments:

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2646		Manufactured	No			270	Each	65.0000	1.0000			
												

Aft Cap

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP6	29	
52663	29	
Main Warehouse		
fp7	13	
52663	13	
Main Warehouse		
ST	23	
46327	4	
48109 ✓	19	

D3413-1

Manufactured No

270

Each

45.0000

1.0000



Ring

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	27	
53446	27	
Main Warehouse		
ST473	18	
51586 ✓	18	

1 BR 10-02-26

1 BR 10-02-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 54925 PM 10-1-05



DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3274	REV. 0 SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY	SCALE NTS
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

RELEASED
07.02.12
DEO ATTACHED

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AFLS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN980C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.207 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

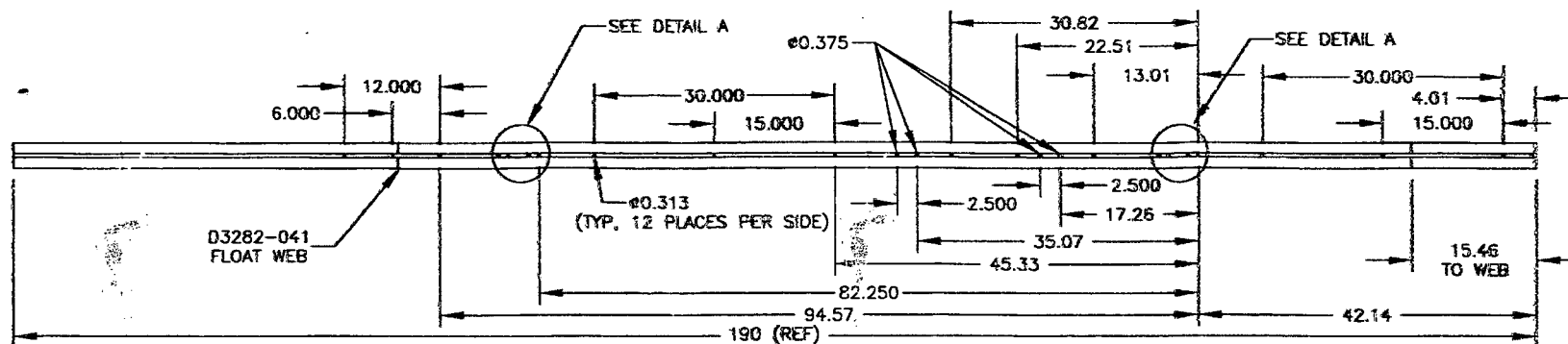
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

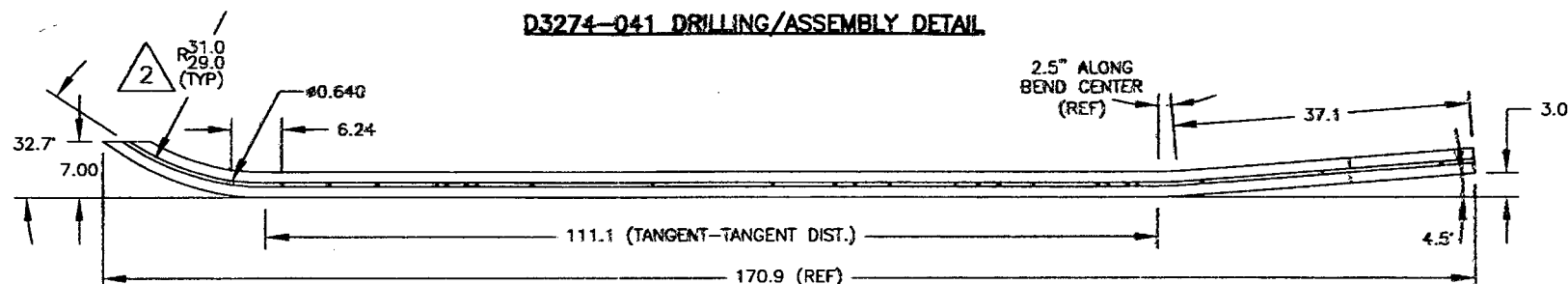
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

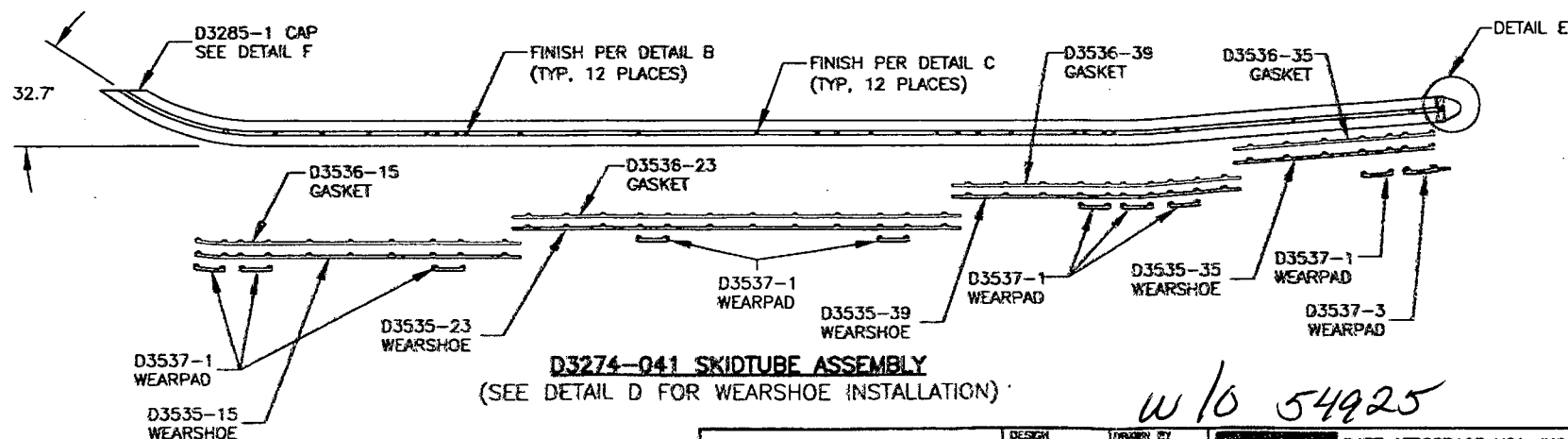
DEO ATTACHED



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

A

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DESIGN	CP	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT WASHINGTON, WA
CHECKED	A	APPROVED	A	REV. D
DATE	06.12.19	DRAWING NO.	D3274	SHEET 2 OF 4
		TITLE	SKIDTUBE ASSEMBLY	SCALE 1:15

W/0 54925

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Technical drawing of a float web showing dimensions and details. The drawing includes the following labels and dimensions:

- Labels:**
 - SEE DETAIL A
 - 1.500 (TYP)
 - 15.000
 - 3.000 PITCH
 - 30.000
 - 3.000 PITCH
 - 1.500 (TYP)
 - Ø0.375
 - 30.82
 - 22.51
 - 13.01
 - 30.000
 - 4.01
 - 3.000 PITCH
 - 1.500 (TYP)
 - 15.46 TO WEB
 - Ø0.313 (TYP, 37 PLACES PER SIDE)
 - 2.500
 - 2.500
 - 17.26
 - 35.07
 - 45.33
 - 82.250
 - 91.57
 - 190 (REF)
 - 42.14
 - D3282-041 FLOAT WEB
- Dimensions:**
 - 1.500 (TYP)
 - 15.000
 - 3.000 PITCH
 - 30.000
 - 3.000 PITCH
 - 1.500 (TYP)
 - Ø0.375
 - 30.82
 - 22.51
 - 13.01
 - 30.000
 - 4.01
 - 3.000 PITCH
 - 1.500 (TYP)
 - 15.46 TO WEB
 - Ø0.313 (TYP, 37 PLACES PER SIDE)
 - 2.500
 - 2.500
 - 17.26
 - 35.07
 - 45.33
 - 82.250
 - 91.57
 - 190 (REF)
 - 42.14

Plan view of the drilling assembly. The diagram shows a horizontal section of the hole with a curved start. Key dimensions and labels include:

- Top Left:** A triangle labeled "2" with radii $R_{31.0}$ and $R_{29.0}$ (TYP).
- Vertical Dimensions (Left):** 32.7, 7.00, and 6.24.
- Horizontal Dimensions (Bottom):** 111.1 (TANGENT-TANGENT DIST.) and 170.9 (REF).
- Right Side:** A vertical dimension of 3.0 and a horizontal dimension of 4.5.
- Labels:** "2.5" ALONG BEND CENTER (REF) and "37.1".
- Other Labels:** $\emptyset 0.640$ and "03274-045 DRILLING/ASSEMBLY DETAIL".

32.7

D3285-1 CAP
SEE DETAIL F

FINISH PER DETAIL B
(TYP, 12 PLACES)

FINISH PER DETAIL C
(TYP, 37 PLACES)

D3536-39
GASKET

D3536-35
GASKET

DETAIL E

D3536-15
GASKET

D3536-23
GASKET

D3537-1
WEARPAD

D3535-23
WEARSHOE

D3535-39
WEARSHOE

D3537-1
WEARPAD

D3535-35
WEARSHOE

D3537-1
WEARPAD

D3537-3
WEARPAD

D3537-1
WEARPAD

D3535-15
WEARSHOE

D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

410 54925

DESG	DRAWN BY	DATE	APPROVED BY
------	----------	------	-------------

07.02.12

DESIGN	DRAWN BY	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA	
CP	PH		
CHECKED	APPROVED	WORKING NO.	REV.
H	H	03274	SHEET 3 OF
DATE	TITLE		SCALE
06.12.15	SKIOTUBE ASSEMBLY		1:1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

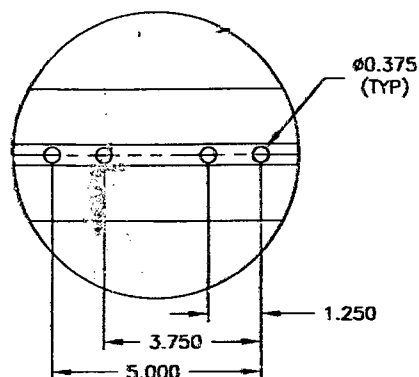
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

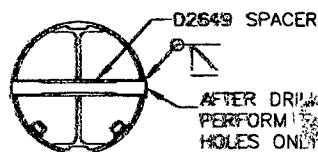
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DETAIL A: DRILL DETAIL

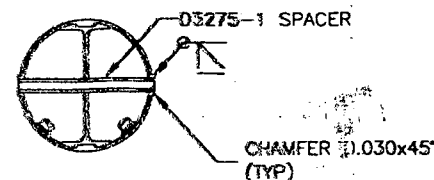


DETAIL B FOR 0.375 HOLES ONLY

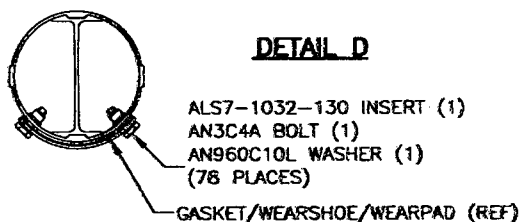


- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR 0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO 0.313x0.75 DEEP

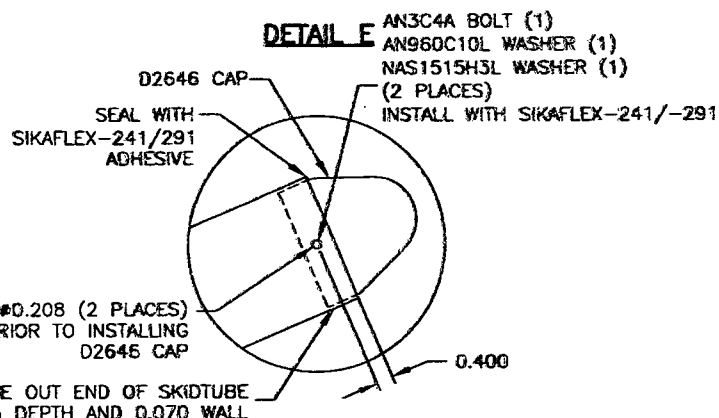
DETAIL C FOR 0.313 HOLES ONLY



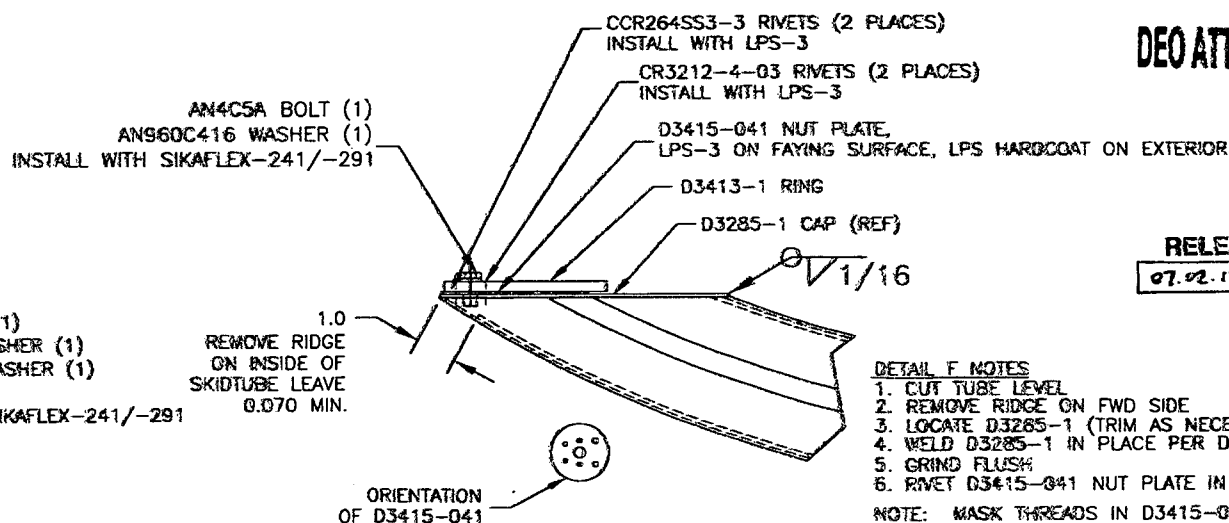
DETAIL D



DETAIL E



DETAIL F: END FINISHING DETAIL



DEO ATTACHED

RELEASED
07.02.12

- DETAIL F NOTES**
1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

W/D 54925

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THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		CHECKED	#	APPROVED	#	OWNING NO.	03274
DATE		06.12.19		TITLE		SKIDTUBE ASSEMBLY	
				REV. D		SHEET 4 OF 4	
				SCALE		1:3	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>A</i>	MFG. APPR. <i>A</i>	APPROVED <i>MAP</i>	DE APPR. <i>#</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

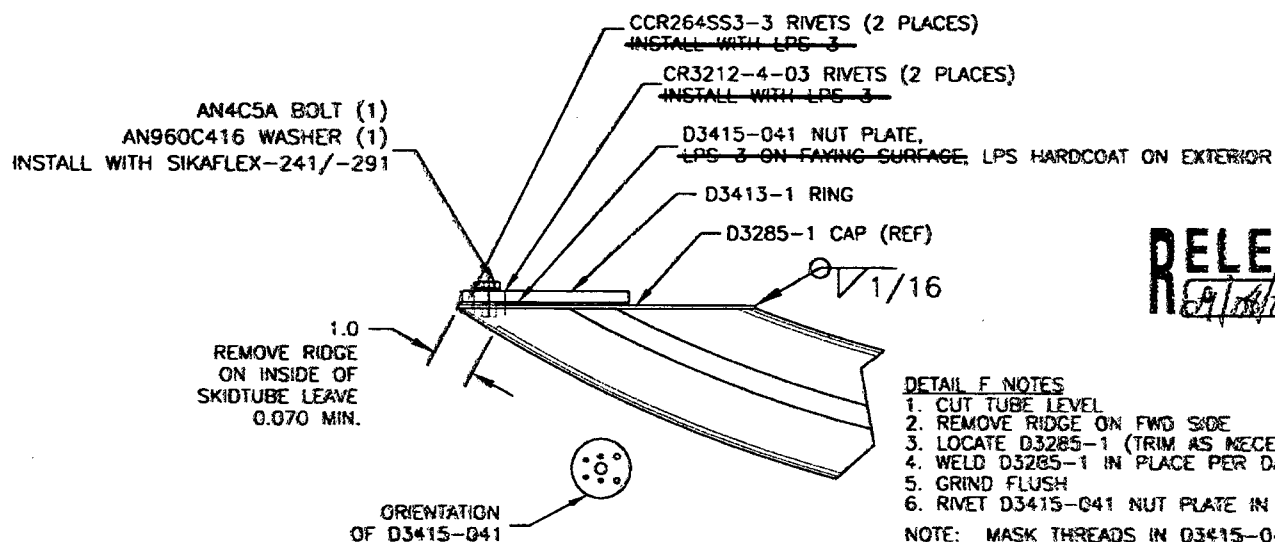
LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: ~~"SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER."~~

AMEND DETAIL F AS SHOWN:

w/o 54925

DETAIL F: END FINISHING DETAIL



DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041 PRIOR TO FINISH

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 216

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barday Elliott
Job number: 2206 S2267
Part number: D206 642-541
Description: 206 skid
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier [Signature] Date of Test Coupon 09-11-10

Welder [Signature] Date of Test Coupon 09-11-10

The above named individual is qualified in accordance with AWS D17.1.2001 to weld